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Do-young Kim

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EXAMINER

TAYLOR, JOSHUA D

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/807,266	<b>Applicant(s)</b> KIM ET AL.	
	<b>Examiner</b> JOSHUA TAYLOR	<b>Art Unit</b> 4157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/24/2004, 2/4/2005</u> .                                     | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 101*

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 8-13 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Independent claim 8 claims “**A recording medium...**,” and in the specification applicant states “**The recording media may also include signals transmitted by carrier waves.**” Therefore, the recording medium in claim 8 could be construed as a "signal" per se, which does not fall under one of the statutory categories of a machine, process, article of manufacture, or composition of matter. See MPEP 2106 (IV)(B) and Interim Guidelines, Annex IV(c). Claims 9-13 depend on claim 8 and do not cure the problem as stated.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-21 rejected under 35 U.S.C. 103(a) as being unpatentable over Robarts et al. (Pub. No.: US 2005/0278741) in view of Perkes (Pub. No.: US 2003/0110503).

Art Unit: 4157

Regarding claim 1:

Robarts discloses an electronic program guide which shows a preview clip of whichever show is highlighted in text in another area of the display. However, Robarts does not disclose having multiple pictures displayed at the same time in the guide. Perkes discloses having multiple picture-in-picture displays all displayed at the same time. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have multiple pictures displayed in the program guide at the same time. Being able to have a visual preview of multiple channels would have been a highly desirable feature, as it would allow viewers to have increased and more timely access to the information that is being looking for.

Claim 1 is mapped against Robarts in view of Perkes as a whole. The rejection is as follow. **A method of displaying EPG information, the method comprising: displaying an electronic program guide (EPG) background screen having a main PIG screen (Robarts, Fig. 6, paragraph [0071], lines 1-2, 10-12) and a plurality of sub PIG screens to display multi-picture-in-guide (PIG) information (Perkes, paragraph [0272], lines 4-9) if an EPG mode for a current channel is requested (Robarts, Fig. 6, paragraph [0068], lines 4-6); detecting the EPG information on the current channel to display in texts on the EPG background screen (Robarts, Fig. 6, paragraph [0069], lines 4-6), displaying tuned moving pictures of the current channel on the main PIG screen while sequentially detecting the EPG information for other channels (Robarts, Fig. 6, paragraph [0071], lines 1-2, 10-12), capturing pictures from the other channels (Perkes, paragraph [0272], lines 4-9), and displaying the detected EPG information in texts on the EPG background screen and displaying the captured pictures as still pictures on the sub PIG screens (Perkes, paragraph [0272], lines 12-20); and whenever**

**a channel is selected among the displayed EPG information as current channel, tuning the channel and updating the main PIG screen and the sub PIG screens (Robarts, Fig. 6, paragraph [0071], lines 10-12).**

Regarding claim 2: **The method of claim 1, wherein the operation of tuning the channel and updating the main and sub PIG screen channels comprises tuning other channels not selected sequentially to update the sub PIG screens (Robarts, Fig. 6, paragraph [0071], lines 1-2, 10-12).** Figure 6 shows that other channels not selected sequentially can update the PIG screen, that is, any of the program tiles 184 can display a preview if selected by the viewer. This claim is thus rejected on the same grounds as claim 1.

Regarding claim 3: **The method of claim 1, wherein the operation of tuning the channel and updating the main and sub PIG screen channels comprises tuning a channel indicated by a cursor to display moving pictures of the channel on the main PIG screen (Robarts, Fig. 6, paragraph [0071], lines 1-2, 10-12).** This claim is rejected on the same grounds as claim 1.

Regarding claim 4: **The method of claim 1, wherein the operation of detecting EPG information on the current channel comprises: detecting the EPG information for the current channel, displaying the EPG information for the current channel on the EPG background screen (Robarts, Fig. 6, paragraph [0069], lines 4-6), and displaying video signals**

Art Unit: 4157

**of the current channel on the main PIG screen presented in the EPG background screen (Robarts, Fig. 6, paragraph [0071], lines 10-12); tuning other channels sequentially from a channel map in which a plurality of the other channels is stored (Perkes, paragraph [0272], lines 4-9), detecting EPG information of the tuned other channels, capturing pictures of the tuned other channels, displaying the detected EPG information in texts on the EPG background screen (Robarts, Fig. 6, paragraph [0069], lines 4-6), and displaying the captured pictures in still pictures on the sub PIG screen (Perkes, paragraph [0272], lines 12-20).**

Robarts discloses displaying a preview clip of the currently selected program in the EPG.

However, Robarts does not disclose tuning other channels from a channel map so as to display previews of more than one channel in the EPG at the same time. Perkes discloses having multiple picture-in-picture displays all displayed at the same time. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have multiple pictures displayed in the program guide at the same time, and getting the preview information from channels that are already listed in the guide is an obvious source for that information. Being able to have a visual preview of multiple channels would have been a highly desirable feature, as it would allow viewers to have increased and more timely access to the information that is being looking for.

Regarding claim 5: **A digital broadcast receiving system which receives transport streams with electronic program guide (EPG) information, the digital broadcast receiving system comprising: a multi tuner which tunes each broadcast signal of channels in the form of the transport streams (Perkes, paragraph [0272], lines 12-20); a de-multiplexer which de-**

Art Unit: 4157

**multiplexes the tuned broadcast signal into a video, an audio and the EPG information** (Robarts, paragraph [0047], lines 11-13); **an image processor which performs image processing on the de-multiplexed broadcast signal from the de-multiplexer ; a picture-in-guide (PIG) processor which constructs a multi PIG screen having a main PIG screen and a plurality of sub PIG screens** (Perkes, paragraph [0272], lines 12-20), **and a program information screen in the form of a table, using the EPG information** (Robarts, Fig. 6, paragraph [0068], lines 4-6); **a display unit which displays video signals output from the image processor and the PIG processor** (Robarts, Fig. 6, paragraph [0099], lines 5-7); **and a controller which controls in an EPG mode video signals of a selected channel to be displayed on the main PIG screen** (Robarts, Fig. 6, paragraph [0071], lines 10-12), **controls still pictures of other channels to be displayed on the sub PIG screens** (Perkes, paragraph [0272], lines 4-9), **and updates information on the main PIG screen by a channel selection from the EPG information displayed in the display unit** (Robarts, Fig. 6, paragraph [0071], lines 10-12). Robarts discloses an electronic program guide which shows a preview clip of whichever show is highlighted in text in another area of the display. However, Robarts does not disclose having multiple pictures displayed at the same time in the guide. Perkes discloses having multiple picture-in-picture displays all displayed at the same time. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have multiple pictures displayed in the program guide at the same time. Being able to have a visual preview of multiple channels would have been a highly desirable feature, as it would allow viewers to have increased and more timely access to the information that is being looking for.

Art Unit: 4157

Regarding claim 6: **The system of claim 5, further comprising a key input unit which allows a user to select the EPG mode and a desired channel from the displayed EPG information as the selected channel** (Robarts, paragraph [0070], lines 5-7). This claim is rejected on the same grounds as claim 5.

Regarding claim 7: **The system of claim 5, further comprising a memory which stores the EPG information and the still pictures from the controller** (Perkes, paragraph [0272], lines 10-12). Robarts discloses an electronic program guide which shows a preview clip of whichever show is highlighted in text in another area of the display. However, Robarts does not disclose having a memory which stores the EPG information and the still pictures from the controller. Perkes does disclose having a memory which stores the EPG information and the still pictures from the controller. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have a memory for storing these images. Being able to have to images stored in memory would simplify the system, as it would not have to continuously retrieve images from multiple channels. This would have been highly desirable, as it reduced the complexity and thus the cost of the system.

Regarding claim 8: **A recording medium encoded with codes readable by a computer to implement a method of generating (EPG) information to be displayed in an EPG background screen in an EPG mode in a display apparatus, the method comprising: forming a main PIG screen** (Robarts, Fig. 6, paragraph [0070], lines 10-12) **on a multi-PIG**



**screen of the EPG background screen to display a moving picture of a first channel; forming a sub PIG screen on the multi-PIG screen of the EPG background screen to display a still picture of a second channel** (Perkes, paragraph [0272], lines 4-9, 12-20); **and forming a sub screen on the multi-PIG screen of the EPG background screen to display channel information of the EPG information in text** (Robarts, Fig. 6, paragraph [0069], lines 4-6). Robarts discloses an electronic program guide which shows a preview clip of whichever show is highlighted in text in another area of the display. However, Robarts does not disclose having multiple pictures displayed at the same time in the guide. Perkes discloses having multiple picture-in-picture displays all displayed at the same time. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have multiple pictures displayed in the program guide at the same time. Being able to have a visual preview of multiple channels would have been a highly desirable feature, as it would allow viewers to have increased and more timely access to the information that is being looking for.

Regarding claim 9: **The recording medium of clam 8, wherein the method further comprises generating the moving picture of the first channel** (Robarts, Fig. 6, paragraph [0071], lines 10-12) **and the still picture of the second channel to be displayed in the main PIG screen and the sub PIG screen of the multi-PIG screen, respectively** (Perkes, paragraph [0272], lines 4-9). This claim is rejected on the same grounds as claim 8.

Art Unit: 4157

Regarding claim 10: **The recording medium of claim 8, wherein the method further comprises generating channel information of the EPG information to be displayed in the sub-screen of the EPG background screen** (Robarts, Fig. 6, paragraph [0069], lines 4-6). This claim is rejected on the same grounds as claim 8.

Regarding claim 11: **The recording medium of claim 8, wherein the channel information includes information about the first and second channel and other channels** (Robarts, Fig. 6, paragraph [0069], lines 4-14). This claim is rejected on the same grounds as claim 8.

Regarding claim 12: **The recording medium of claim 8, wherein the method further comprises generating a cursor to be displayed on the EPG background screen to allow a user to select one of the second channel and another channel displayed on the sub PIG screen and the sub screen, respectively** (Robarts, Fig. 6, paragraph [0068], lines 4-6). Figure 6 shows that when a region is highlighted, the preview window will show a clip related to that region. Using a cursor to select the region is an obvious variant. Therefore, this claim is rejected on the same grounds as claim 8.

Regarding claim 13: **The recording medium of claim 8, wherein the method further comprises: generating the moving picture corresponding to the selected one of the second channel and another channel to be displayed in the main PIG screen** (Robarts, Fig. 6,

paragraph [0071], lines 10-12); **and generating the still picture corresponding other channel than the second channel to be displayed in the sub PIG screen** (Perkes, paragraph [0272], lines 12-20). Robarts discloses an electronic program guide which shows a preview clip of whichever show is highlighted in text in another area of the display. However, Robarts does not disclose having multiple pictures displayed at the same time in the guide. Perkes discloses having multiple picture-in-picture displays all displayed at the same time. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have multiple pictures displayed in the program guide at the same time. Being able to have a visual preview of multiple channels would have been a highly desirable feature, as it would allow viewers to have increased and more timely access to the information that is being looking for.

Regarding claim 14: **A method of generating (EPG) information to be displayed on an EPG background screen in an EPG mode in a display apparatus** (Robarts, Fig. 6, paragraph [0068], lines 1-6), **the method comprising: forming a main PIG screen on a multi-PIG screen of the EPG background screen to display a moving picture of a first channel** (Robarts, Fig. 6, paragraph [0071], lines 10-12); **forming a sub PIG screen on the multi-PIG screen to display a still picture of a second channel** (Perkes, paragraph [0272], lines 4-9); **and forming a sub screen on the multi-PIG screen to display channel information of the EPG information in text** (Robarts, Fig. 6, paragraph [0069], lines 4-6). Robarts discloses an electronic program guide which shows a preview clip of whichever show is highlighted in text in another area of the display. However, Robarts does not disclose having multiple pictures displayed at the same time in the guide. Perkes discloses having multiple picture-in-picture

Art Unit: 4157

displays all displayed at the same time. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have multiple pictures displayed in the program guide at the same time. Being able to have a visual preview of multiple channels would have been a highly desirable feature, as it would allow viewers to have increased and more timely access to the information that is being looking for.

Regarding claim 15: **The method of clam 14, further comprising: generating the moving picture of the first channel and the still picture of the second channel to be displayed in the main PIG screen and the sub PIG screen of the multi-PIG screen** (Perkes, paragraph [0272], lines 12-20), **respectively; and generating channel information of the EPG information to be displayed in the sub-screen of the EPG background screen** (Robarts, Fig. 6, paragraph [0068], lines 1-6). Robarts discloses an electronic program guide which shows a preview clip of whichever show is highlighted in text in another area of the display. However, Robarts does not disclose having multiple pictures displayed at the same time in the guide. Perkes discloses having multiple picture-in-picture displays all displayed at the same time. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have multiple pictures displayed in the program guide at the same time. Being able to have a visual preview of multiple channels would have been a highly desirable feature, as it would allow viewers to have increased and more timely access to the information that is being looking for.

Regarding claim 16: **The method of claim 14, further comprising: generating a cursor to be displayed on the EPG background screen to allow a user to select one of the second channel and another channel displayed on the sub PIG screen and the sub screen, respectively** (Robarts, Fig. 6, paragraph [0068], lines 4-6). Figure 6 shows that when a region is highlighted, the preview window will show a clip related to that region. Using a cursor to select the region is an obvious variant. Therefore, this claim is rejected on the same grounds as claim 14.

Regarding claim 17: **The method of claim 14, further comprising: generating the moving picture corresponding to the selected one of the second channel and another channel to be displayed in the main PIG screen** (Robarts, Fig. 6, paragraph [0071], lines 10-12); **generating the still picture corresponding other channel than the second channel to be displayed in the sub PIG screen** (Perkes, paragraph [0272], lines 12-20); **and generating channel information of the EPG information to be displayed in the sub-screen of the EPG background screen** (Robarts, Fig. 6, paragraph [0069], lines 4-6). Robarts discloses an electronic program guide which shows a preview clip of whichever show is highlighted in text in another area of the display. However, Robarts does not disclose having multiple pictures displayed at the same time in the guide. Perkes discloses having multiple picture-in-picture displays all displayed at the same time. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have multiple pictures displayed in the program guide at the same time. Being able to have a visual preview of multiple channels would have been a highly desirable feature, as it would allow viewers to have increased and more timely access to the information that is being looking for.

Regarding claim 18: **An apparatus to generate (EPG) information to be displayed on an EPG background screen in an EPG mode in a display apparatus** (Robarts, Fig. 6, paragraph [0068], lines 1-6), **comprising: a PIG processor to form a main PIG screen on a multi-PIG screen of the EPG background screen to display a moving picture of a first channel** (Robarts, Fig. 6, paragraph [0071], lines 10-12), **a sub PIG screen on the multi-PIG screen of the EPG background screen to display a still picture of a second channel** (Perkes, paragraph [0272], lines 12-20), **and a sub screen on the multi-PIG screen of the EPG background screen to display channel information of the EPG information in text** (Robarts, Fig. 6, paragraph [0069], lines 4-6). Robarts discloses an electronic program guide which shows a preview clip of whichever show is highlighted in text in another area of the display. However, Robarts does not disclose having multiple pictures displayed at the same time in the guide. Perkes discloses having multiple picture-in-picture displays all displayed at the same time. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have multiple pictures displayed in the program guide at the same time. Being able to have a visual preview of multiple channels would have been a highly desirable feature, as it would allow viewers to have increased and more timely access to the information that is being looking for.

Regarding claim 19: **The apparatus of clam 18, further comprising: a demultiplexer to generate the moving picture of the first channel** (Robarts, paragraph [0047], lines 11-13) **and**

**the still picture of the second channel to be displayed in the main PIG screen and the sub PIG screen of the multi-PIG screen** (Perkes, paragraph [0272], lines 12-20), **respectively, and to generate channel information of the EPG information to be displayed in the sub-screen of the EPG background screen** (Robarts, Fig. 6, paragraph [0069], lines 4-6). Robarts discloses an electronic program guide which shows a preview clip of whichever show is highlighted in text in another area of the display. However, Robarts does not disclose having multiple pictures displayed at the same time in the guide. Perkes discloses having multiple picture-in-picture displays all displayed at the same time. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have multiple pictures displayed in the program guide at the same time. Being able to have a visual preview of multiple channels would have been a highly desirable feature, as it would allow viewers to have increased and more timely access to the information that is being looking for.

Regarding claim 20: **The apparatus of claim 19, further comprising: a controller to generate a cursor to be displayed on the EPG background screen to allow a user to select one of the second channel and another channel displayed in the sub PIG screen and the sub screen, respectively** (Robarts, Fig. 6, paragraph [0068], lines 4-6). Figure 6 shows that when a region is highlighted, the preview window will show a clip related to that region. Using a cursor to select the region is an obvious variant. Therefore, this claim is rejected on the same grounds as claim 18.

Art Unit: 4157

Regarding claim 21: **The apparatus of claim 20, further comprising: a controller to control the PIG processor and the demultiplexer to generate the moving picture corresponding to the selected one of the second channel** (Robarts, Fig. 6, paragraph [0071], lines 10-12) **and another channel to be displayed in the main PIG screen, to generate the still picture corresponding other channel than the second channel to be displayed in the sub PIG screen** (Perkes, paragraph [0272], lines 12-20), **and to generate channel information of the EPG information to be displayed in the sub-screen of the EPG background screen** (Robarts, Fig. 6, paragraph [0069], lines 4-6). Robarts discloses an electronic program guide which shows a preview clip of whichever show is highlighted in text in another area of the display. However, Robarts does not disclose having multiple pictures displayed at the same time in the guide. Perkes discloses having multiple picture-in-picture displays all displayed at the same time. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have multiple pictures displayed in the program guide at the same time. Being able to have a visual preview of multiple channels would have been a highly desirable feature, as it would allow viewers to have increased and more timely access to the information that is being looking for.

### **Contact**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA TAYLOR whose telephone number is (571)270-3755. The examiner can normally be reached on 8am-5pm, M-F, EST.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vu Le can be reached on (571) 272-7332. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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